



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/168,770	10/08/1998	RASHMI K. SHAH	TH-1042(US)	2851

7590 03/21/2003

DEL S CHRISTENSEN
SHELL OIL COMPANY
INTELLECTUAL PROPERTY
P O BOX 2463
HOUSTON, TX 772522463

EXAMINER

RIDLEY, BASIA ANNA

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 03/21/2003

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/168,770

Applicant(s)

SHAH ET AL.

Examiner

Basia Ridley

BR

Art Unit

1764

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 07 March 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): See Continuation Sheet.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: none.Claim(s) objected to: none.Claim(s) rejected: 1-7 and 13-24.Claim(s) withdrawn from consideration: 8-12.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s).
10. ☐ Other: _____

David Johnson
DAVID D. JOHNSON
PRIMARY EXAMINER
GROUP 1100

Continuation of 3. Applicant's reply has overcome the following rejection(s): rejection of claims 1-7 and 13-24 under 35 USC 112(2) and the following rejections under 35 USC 103: rejection of claims 1-7, 13-16 and 18-23 over Ruhl and rejection of claims 17 and 24 over Ruhl in view of Minet et al..

Continuation of 5. does NOT place the application in condition for allowance because, while the applicant's arguments have been fully considered, they are not persuasive.

The applicant argues that neither Ruhl, Mikus nor Minet et al. explicitly disclose distributing the fuel nozzles along substantially the entire length of the oxidation chamber.

This is not found persuasive, in view of disclosure of Mikus, see Office action mailed on 2 January 2003, and in view of general knowledge available to one of ordinary skill in the art, that heat transfer to a process can be optimized by placing a heater in a location where heat is desired, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place said nozzles in any location where heat transfer to process in the process chamber is required, said locations including nozzles along substantially the entire length of the oxidation chamber, for the purpose of optimizing heat transfer to the process chamber. That being said, the examiner would like to direct applicants attention to the abstract of Mikus, where the reference discloses that nozzles are distributed ~~nozzles~~ along substantially the entire length of the oxidation chamber (see Mikus Fig. 1, Abstract and C5/L41-65).

Applicant's arguments with referring to Fig. 4 of Ruhl are not applicable to the rejection of record.

The applicant argues that "the statement that Minet et al. teaches preheating of the oxidant with effluent from the process or reactant chamber is simply incorrect".

In response the examiner would like to point out that the examiner has not made such statement. But the examiner did state that it is well known in the art to use heat available in the process to preheat process streams. The principle that one can lower operating costs of a system by using heat which is already available in said system is so well known that no reference should be necessary. This being said, the examiner has in fact cited a reference (Minet et al.) which teaches that heat of effluent of reaction chamber is being used to preheat a feed stream for said reaction chamber (see Minet et al., Fig. 1 and C5/L60-68). In view of this teaching and in view of Mikus disclosing that the oxidant can be preheated by any means known to ordinary skilled artisan (P5/L41-46), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the hot effluent of the process chamber of Ruhl to preheat the oxidant, as taught by Minet et al. and Mikus, for the purpose of optimizing the process operation by effluent using heat which is available in the process for the required oxidant preheating. In this way the operation cost can be lowered because no additional source of heat is needed to preheat said oxidant.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Mikus teaches that absence of flame eliminates the flame as a radiant heat source and results in more even temperature distribution throughout the length of the burner (abstract). Further it eliminates the hot spots within the burner and structures surrounding the burner, which originate from the radiant heat transfer from the luminous portion of the flame. Said process heater not only optimizes the process operation but it is also less expensive than a process heater operating with flames because of less expensive materials of construction (C2/L4-12).

The applicant argues that the Affidavit by Dr. Mikus does contain factual evidence comparing heat flux required by a typical endothermic reaction to heat flux of process burner disclosed by Mikus. While this is true, said Affidavit does not provide any data showing that increasing number of heaters of Mikus in the process of Ruhl would not provide heat sufficient to operate said process. In this regard, mere arguments and conclusory statements, which are unsupported by factual evidence, are entitled to little probative value. *In re Linder*, 457 F.2d 506, 508-09, 173 USPQ 356, 358 (CCPA 1972); *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984); *In re Wood*, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

As stated in the Office action mailed on 2 January 2003, since there is a multitude of variables which can be adjusted in any heater operation to change heat flux of said heater, said variables including the flow rates of gases being burned, composition of fuel being burned, the tube design (materials of construction, length and diameter), heat transfer properties of material being heated, number of heaters, etc., it would have been obvious to one of ordinary skill in the art at the time the invention was made to use flameless heater of Mikus in any process which requires uniform heat transfer, such a process of Ruhl, and if necessary to modify operation of said heater, possible by varying some of the above mentioned variables, to provide whatever heat is required by said process. This is suggested by the reference of Ruhl itself, which teaches that the apparatus can incorporate as many heater tubes as necessary to provide heat required by the process (see P5/L36-40) and that temperature of combustion gases, and inherently heat flux of the heater, can be varied by adjusting the fuel composition and flow rates of fuel and air (see P7/L4-7).

Further the examiner would like to point out that actual heat flux or any specific processes are not recited in the independent claims..